

**EXTENDING THE BURDEN OF DISEASE PROTOCOL: DERIVING DISABILITY WEIGHTS FOR RISK FACTOR DISEASES—THE CASE FOR OSTEOPOROSIS**

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**OBJECTIVES:** To compare a newly developed method to derive disability weights for risk factor diseases, in particular osteoporosis, with the standard QALY approach (SQA). A risk factor disease is an asymptomatic condition with a risk of a symptomatic event. SQA estimates burden of risk by multiplying the probability of an event by the burden of that event, ignoring the impact of risk awareness. In osteoporosis, fracture-risk awareness and associated mortality may affect the burden. **METHODS:** Disability weights were derived by a panel of the general public in The Netherlands ( $n = 142$ ) as part of a larger valuation study. All health states were presented to participants on a standardized, preformatted sheet ('vignette') containing disease specific information and a generic description (EQ-6D5L). All vignettes were valued by TTO. Vignettes for osteoporosis showed an asymptomatic state with varying fracture-risks (1, 2, 5, or 10%), which were valued directly. To derive osteoporotic weights by SQA osteoporotic fracture vignettes were included. SQA weights were obtained indirectly; calculated as hip fracture weight multiplied by fracture risks. In total, 14 vignettes were valued, of which three included a mortality risk. **RESULTS:** Taking fracture-risk awareness into account, mean TTO disability weights for osteoporosis ranged from 0,035 (1%) to 0,151 (10%). Calculated SQA weights are 0,001 (1%) to 0,011 (10%), a factor 9 to 34 lower. **CONCLUSIONS:** The burden of disease in risk factor diseases (osteoporosis) can be quantified via disability weights using direct methods. Ignoring fracture-risk awareness and associated mortality leads to gross underestimation of the burden of osteoporosis. The inclusion of burden of risk would significantly influence current QALY/DALY disease rankings and would accommodate the empirical gap between SQA and the clinical practice. It would better explain the sizeable resources spent on risk 'management' (e.g. diagnostic tests, disease surveillance) and prevention in terms of cost per QALY.

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are remaining on alendronate and 69.7% (CI 65%–74%) of patients are remaining on risedronate. The persistence with alendronate is different to risedronate ( $p = 0.0015$ ). The compliance rate expressed as medication possession ratio (MPR) was 75.5% and 83.3% for alendronate and risedronate, respectively. **CONCLUSIONS:** Results demonstrate a higher compliance and persistence with weekly bisphosphonate than reported previously from analyses in US claims databases. In fact, the study reveals that patients taking once-a-week risedronate show a high compliance rate (MPR > 80%). It has previously been demonstrated that improving compliance in actual practice may significantly decrease osteoporosis related fracture risk. We conclude, that an once-a-week dosing regimen with risedronate provides favourable compliance and persistence to effectively prevent fractures.

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**AN INTERNATIONAL COMPARISON OF THE IMPACT OF DOSING FREQUENCY ON COMPLIANCE AND PERSISTENCE WITH BISPHOSPHONATE THERAPY, AMONG POST-MENOPAUSAL WOMEN IN THE US, UK AND GERMANY**Cramer JA<sup>1</sup>, Lynch NO<sup>2</sup>, Walker M<sup>3</sup>, Cowell W<sup>3</sup>, Suppapanya N<sup>4</sup>, Rigney U<sup>2</sup>, Hammerschmidt T<sup>5</sup><sup>1</sup>Yale University School of Medicine, West Haven, CT, USA;<sup>2</sup>GlaxoSmithKline, Greenford, Middlesex, UK; <sup>3</sup>Roche Products Ltd, Welwyn Garden City, Hertfordshire, UK; <sup>4</sup>GlaxoSmithKline, Collegeville, PA, USA; <sup>5</sup>GlaxoSmithKline, Munich, Bavaria, Germany

**OBJECTIVES:** To quantify the impact of a less frequent bisphosphonate regimen (weekly v daily) on compliance and persistence. **METHODS:** Data on bisphosphonate naïve postmenopausal women in the US were derived from an administrative claims database (1997–2003) covering 30 health plans. In the UK and Germany data were derived from local Mediplus databases (2001–2005) containing 2.5 million and 1.5 patients respectively. Women were grouped into two cohorts; once daily (OD—alendronate 5 mg or 10 mg and risedronate 5 mg) and once weekly (OW—alendronate 70 mg and risedronate 35 mg). They were followed for at least 12 months from initial prescription. Compliance was estimated as a Medication Possession Ratio (MPR) and persistence as the number of days from initial prescription to the date of discontinuation of therapy. **RESULTS:** The number of women evaluated was 2,741 from US (OW = 731, OD = 2010), 5962 from UK (OW = 5102, OD = 860) and 288 from Germany (OW = 144, OD = 144). Mean age in each country was 73 years. OW users had a significantly higher MPR than OD users (US: 56.3% v 37.7%, UK: 70.3% v 51.7%, Germany: 51.7% v 37.7%,  $p < 0.0001$ ). OW users also had a significantly higher persistence than OD users (US: 227 v 185 days, UK: 228 v 186 days, Germany: 227 v 172 days,  $p < 0.0001$ ). More women stayed on weekly compared to a daily regimen during the 12 month follow up (US: 44.2% v 31.7%, UK: 43.6% v 33.3%, Germany: 46.5% v 27.8%,  $p < 0.0001$ ). **CONCLUSIONS:** Similar findings in different health care systems confirm that compliance and persistence with bisphosphonate treatment is improved substantially with a less frequent dosing regimen. A further decrease may help patients use bisphosphonate treatment more regularly and longer term to maximise the therapeutic goal of reducing fracture rates.

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**PERSISTENCE OF DRUG TREATMENT WITH ALENDRONATE AND RISEDRONATE IN PRIMARY CARE PATIENTS**Moehrke W<sup>1</sup>, Lyssy A<sup>1</sup>, Wick B<sup>2</sup>, Gerd M<sup>2</sup><sup>1</sup>Procter & Gamble Pharmaceuticals, Schwalbach, Germany; <sup>2</sup>Procter & Gamble Pharmaceuticals, Schwalbach a.Ts, Germany

**OBJECTIVES:** To evaluate persistence of weekly drug treatment with alendronate and risedronate over 12 months in primary care patients using the DIN-LINK observational database. **METHODS:** The DIN-LINK longitudinal patient database sourced from medical records in UK was used to identify and follow-up a cohort of patients with prescriptions for once weekly administration of alendronate or risedronate. Follow-up period was 12 month. The proportion of patients remaining on drug treatment was calculated with the Kaplan-Meier product-limit method. The log-rank test was used to evaluate the statistical significance of observed differences between treatment groups. Results were considered to be statistically significant if the corresponding  $p$  value was below 0.05. Analyses were performed using SPSS for windows release 11.5.1. **RESULTS:** In the database 2132 patients on weekly administration of alendronate and 356 patients on weekly administration of risedronate were identified. After 12 month 60.6% (95% CI 58%–63%) of patients